

Chemical mechanical polishing slurry used for copper layer of semiconductor**Publication number:** TW255851B**Publication date:** 2006-06-01**Inventor:** TSAY MING-TSEH (TW); SHIH ZONG-WHIE (TW); PAN WEN-CHUEH (TW); FAN YANG-JIANN (TW)**Applicant:** CHUNG SHAN INST OF SCIENCE (TW)**Classification:****- international:** C09K3/14; C23F1/16; C09K3/14; C23F1/10; (IPC1-7): C09K3/14; C23F1/16**- European:****Application number:** TW20040110198 20040413**Priority number(s):** TW20040110198 20040413[Report a data error here](#)**Abstract of TW255851B**

A chemical mechanical polishing slurry used to polish the copper layer of semiconductor wafer, which includes the colloidal silica and the chemical etching agent composed of hydrogen peroxide, acetic acid, and phthalic acid, wherein hydrogen peroxide is responsible for surface oxidation of the copper layer followed by the reaction of acetic acid and copper oxide to form copper acetate. The chemical reaction mechanism according to selectivity and functionality can accelerate polishing removal efficiency and simultaneously reduce the scratch phenomenon, while the function of pH buffering agent and complexing agent provided by phthalic acid can step up the uniformity of reaction concentration on each point of the wafer surface, which expresses the efficacy of high removal rate and uniformity during the chemical mechanical polishing process of copper layer.

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